

WHAT IS CLAIMED IS:

1-24 (Canceled)

25. (New) A circular knitting machine, comprising: a footing; a needle cylinder supported on said footing and rotationally actuatable, with respect
5 to said footing about an axis thereof, which is orientated substantially vertically; a plurality of axial slots being formed on an outer lateral surface of the needle cylinder, each slot accommodating a needle; actuating means for actuating the needles provided and interacting with said needles during rotation of the needle cylinder about said axis thereof in order to actuate the
10 needles along a corresponding axial slot of the needle cylinder so that the needles form knitting with at least one yarn dispensed to the needles at at least one drop or feed of the machine; and wherein said needle actuation means comprise, for each needle, a sub-needle arranged in the corresponding axial slot of the needle cylinder below said needle; said sub-needle being
15 connected bilaterally to the needle for motion along the corresponding axial slot and having, along an extension thereof, a heel that is orientated radially with respect to the needle cylinder; sub-needle actuation cams, said sub-needle being able to oscillate on a radial plane of the needle cylinder in order to pass from an active position, in which the sub-needle is extracted radially
20 with the heel thereof from the corresponding axial slot of the needle cylinder so as to engage paths formed by said sub-needle actuation cams, which are arranged around the needle cylinder and are suitable to produce or allow a movement of said sub-needle along the corresponding axial slot of the needle cylinder, to an inactive position, in which the sub-needle is embedded
25 with the heel thereof in the corresponding axial slot of the needle cylinder so as to avoid engaging said sub-needle actuation cams; and sub-needle actuation means which act on said sub-needle for transition thereof from said active position to said inactive position and vice versa.

26. (New) The machine according to claim 25, comprising needle
30 actuation cams, said needle having, along an extension thereof, a needle heel

that protrudes radially with respect to the needle cylinder which is engageable in paths formed by needle actuation cams that are arranged around the needle cylinder and are suitable to produce or allow movement of the needle along the corresponding axial slot of the needle cylinder.

5 27. (New) The machine according to claim 25, wherein said actuation means for actuating the sub-needle comprises an actuation element that is arranged in each one of said axial slots below a corresponding sub-needle and is moveable on command along the corresponding axial slot in order to interact with a lower end of the sub-needle and produce transition and
10 retention of said sub-needle in said active position or in said inactive position.

 28. (New) The machine of claim 27, wherein said actuation element comprises: an oscillating selector; selector actuation cams; and at least one selection device provided for each one of the drops or feeds of the machine,
15 said selector being provided, along an extension thereof, with at least one selector heel that protrudes radially with respect to the needle cylinder, said selector being able to oscillate on a radial plane with respect to the needle cylinder in order to pass from an active position, in which the selector protrudes radially with the heel thereof from the needle cylinder so as to
20 engage paths defined by the selector actuation cams arranged around the needle cylinder and suitable to produce or allow a movement of the selector along the corresponding axial slot of the needle cylinder, to an inactive position, in which the selector is embedded with the heel thereof in the corresponding axial slot of the needle cylinder so as to avoid engaging said
25 selector actuation cams, and vice versa, said at least one selection device acting on command on said selector for transition or retention thereof in said active position or in said inactive position.

 29. (New) The machine of claim 28, wherein said needle cylinder is actuatable with a rotary motion about the axis thereof in both directions of
30 rotation, and wherein said needle actuation means are adapted to allow the

needles to form knitting in both directions of rotation of the needle cylinder about the axis thereof, at at least one drop or feed of the machine.

30. (New) The machine of claim 26, wherein said needle cylinder is actuatable with an alternating rotary motion about the axis thereof.

5 31. (New) The machine of claim 29, wherein for each one of the drops or feeds of the machine, four selection devices are provided, two for each direction of rotation of the needle cylinder about the axis thereof, said devices acting on command on said selector for its transition or retention in said active position or in said inactive position.

10 32. (New) The machine of claim 28, wherein the lower end of said sub-needle is shaped complementarily to an upper end of said actuation element in order to move said sub-needle from said inactive position to said active position or vice versa as a consequence of an axial movement of said actuation element along the corresponding axial slot of the needle cylinder.

15 33. (New) The machine of claim 32, wherein the lower end of said sub-needle is forked, with a first prong that protrudes downward with respect to the second prong; said first prong lying closer to the bottom of the corresponding axial slot of the needle cylinder than said second prong; said first prong being engageable by an upper portion of said actuation element to
20 move or stably retain said sub-needle in its inactive position, and said second prong being engageable by said upper portion of said actuation element to move or stably retain said sub-needle in the active position.

 34. (New) The machine of claim 33, wherein said upper portion of said actuation element can be inserted, in the motion of said actuation
25 element along the corresponding axial slot of the needle cylinder, between the two prongs of the fork of the lower end of said sub-needle.

 35. (New) The machine of claim 34, wherein said upper portion of said actuation element has, in a region that is spaced from the upper end of said upper portion, a first region that forms an inclined plane with respect to
30 the longitudinal extension of the corresponding axial slot of the needle

cylinder and is adapted to engage a corresponding region that forms an inclined plane and is provided at a lower end of said first prong of the fork of the sub-needle for transition of said sub-needle from said active position to said inactive position as a consequence of the downward movement of said actuation element along the corresponding axial slot of the needle cylinder.

36. (New) The machine of claim 34, wherein the upper portion of said actuation element has, at its upper end, a second region that forms an inclined plane with respect to the longitudinal extension of the corresponding axial slot of the needle cylinder and is adapted to engage a corresponding region that forms an inclined plane and is provided at a lower end of said second prong of the fork of the sub-needle for transition of said sub-needle from said inactive position to said active position as a consequence of the upward movement of said actuation element along the corresponding axial slot of the needle cylinder.

37. (New) The machine of claim 34, wherein said actuation element comprises, in addition to said selector, a pusher that is accommodated so as to be slideable in the corresponding axial slot of the needle cylinder between said selector and said sub-needle, said upper portion of the actuation element that is adapted to engage the lower end of said sub-needle being constituted by the upper portion of said pusher.

38. (New) The machine of claim 37, comprising pusher actuation cams arranged around the outer lateral surface of the needle cylinder, said pusher having, along an extension thereof, a pusher heel that protrudes from the corresponding axial slot of the needle cylinder and being adapted to engage paths that are defined by said pusher actuation cams and are shaped so as to produce a motion of said pushers along the corresponding axial slots of the needle cylinder.

39. (New) The machine of claim 38, wherein said sub-needle actuation cams comprise lowering cams to produce downward movement of the

needles after engaging yarn at each one of said drops or feeds of the machine.

40. (New) The machine of claim 39, wherein the paths defined by said selector actuation cams have, ahead of each drop or feed, a first rising
5 portion and a second rising portion, a peak of said second rising portion being higher than a peak of said first rising portion for upward movement of the needles respectively to a tuck-stitch lifting level and to a drop-stitch lifting level for an overlying needle, at least one selection device being interposed between said first rising portion and said second rising portion.

10 41. (New) The machine of claim 40, wherein two selection devices are arranged sequentially between said first rising portion and said second rising portion of the selector actuation cams and is usable selectively depending on a direction of rotation of the needle cylinder about the axis thereof.

15 42. (New) The machine of claim 40, wherein a bottom of each axial slot of the needle cylinder has a portion that is adapted to be engaged by said sub-needle at least in its fully lifted condition in order to retain said sub-needle in its active position.

43. (New) The machine of claim 41, wherein said selection devices are arranged at a same height.

20 44. (New) The machine of claim 40, comprising four drops or feeds, which are angularly mutually spaced around the axis of the needle cylinder.

45. (New) The machine of claim 44, wherein said needle actuation means are suitable to allow the needles to form knitting in both directions of rotation of the needle cylinder about the axis thereof at each one of the drops
25 or feeds.

46. (New) The machine of claim 44, wherein said needle actuation cams, said sub-needle actuation cams, said pusher actuation cams and said selector actuation cams have configurations and arrangements that are symmetrical with respect to a radial plane of the needle cylinder that passes
30 through a drop or feed.

47. (New) The machine of claim 46, wherein said selection devices are arranged symmetrically with respect to a radial plane of the needle cylinder that passes through a drop or feed.

48. (New) The machine of claim 25, wherein said needle cylinder has
5 a diameter that is substantially comprised between 7 and 24 inches.